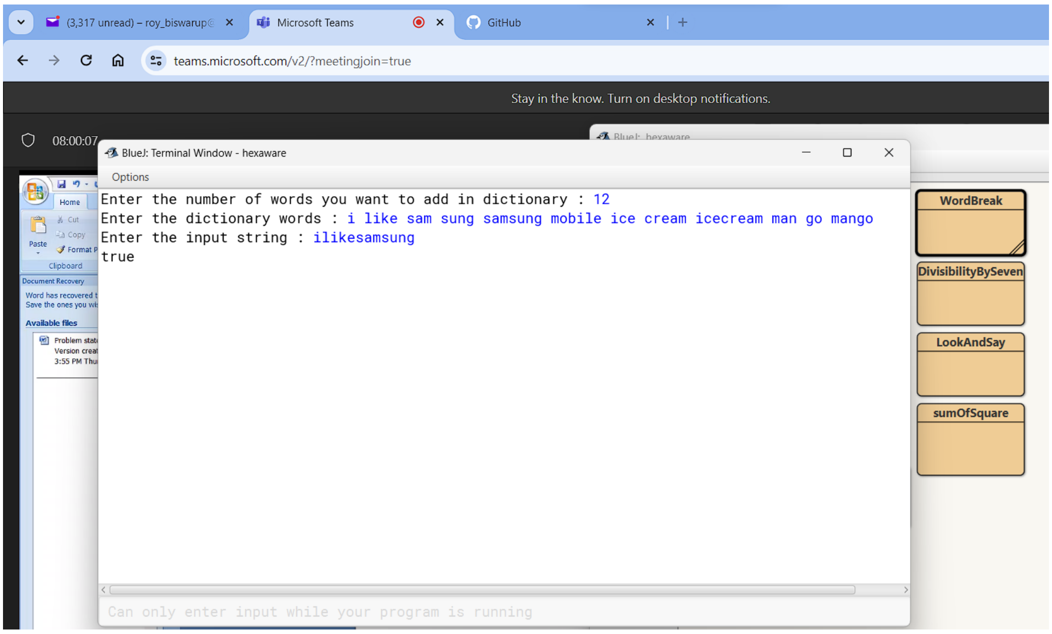
PROBLEM 1

```
import java.io.*;
import java.util.*;
class WordBreak{
    static Set<String> dict =new HashSet<>();
    public static boolean wordBreak(String s) {
        int size = s.length();
        if (size == 0)
        return true;
        for (int i = 1; i <= size; i++)
        {
            if (dict.contains(s.substring(0,i)) &&
wordBreak(s.substring(i,size)))
            return true;
        }
        return false;
    }
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the number of words you
        want to add in dictionary: ");
        int n = sc.nextInt();
        String dictionaryArray[] = new String[n];
        System.out.print("Enter the dictionary words : ");
        for(int i = 0;i<n;i++){
            dictionaryArray[i] =  sc.next();
        }
        for (String temp :dictionaryArray)
        {
            dict.add(temp);
        }
        System.out.print("Enter the input string: ");
        String inputString = sc.next();
        System.out.println(wordBreak(inputString));
    }
}
```



```
Enter the number of words you want to add in dictionary : 12
Enter the dictionary words : i like sam sung samsung mobile ice cream icecream man go mango
Enter the input string : ilikesamsung
true
```

(3,317 unread) – roy_biswarup
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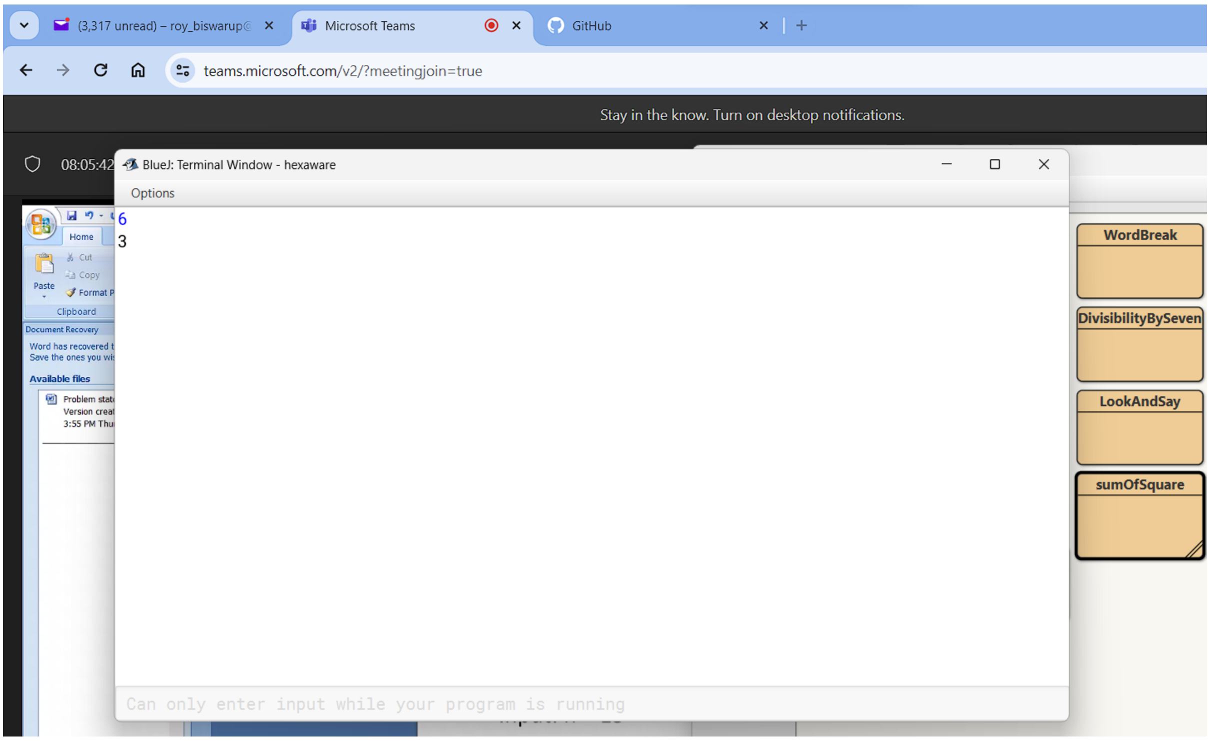
08:00:07
BlueJ: hexaware
BlueJ: Terminal Window - hexaware
Options
WordBreak
DivisibilityBySeven
LookAndSay
sumOfSquare
Can only enter input while your program is running

OUTPUT 1

PROBLEM 2

```
import java.io.*;
import java.util.*;
class sumOfSquare{
    public static int findMinSumOfSquare(int n){
        if (n <= 3)
            return n;
        int dp[] = new int[n + 1];
        dp[0] = 0;
        dp[1] = 1;
        dp[2] = 2;
        dp[3] = 3;
        for (int i = 4; i <= n; i++)
        {
            dp[i] = i;
            for (int x = 1; x <= Math.ceil(Math.sqrt(i)); x++)
            {
                int temp = x * x;
                if (temp > i)
                    break;
                else
                    dp[i] = Math.min(dp[i], 1+ dp[i - temp]);
            }
        }
        int res = dp[n];
        return res;
    }
    public static void main(String [] args){
        Scanner sc = new Scanner(System.in);
        int x = sc.nextInt();
        System.out.print(findMinSumOfSquare(x));
    }
}
```



```
6
3
```

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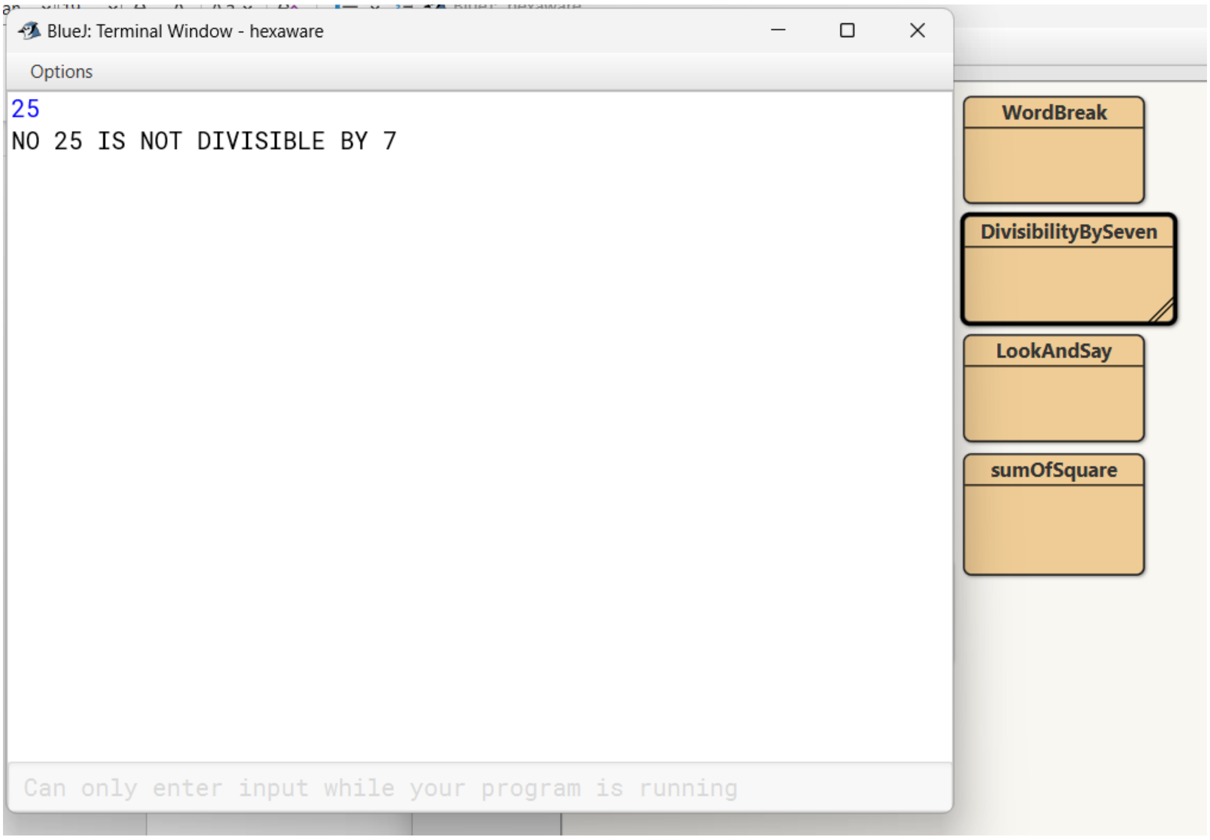
OUTPUT 2

PROBLEM 3

```
import java.util.*;
import java.io.*;
class DivisibilityBySeven {
    public static boolean isDivisibleBySeven(int num) {
        if (num < 0) {
            return isDivisibleBySeven(-num);
        }
        if (num == 7 || num == 0) {
            return true;
        }
        if(num < 10){
            return false;
        }
        int lastDigit = num - num / 10 * 10 ;
        int remainder = num / 10 - 2 * ( lastDigit );
        return isDivisibleBySeven(remainder);
    }
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int num = sc.nextInt();
        if(isDivisibleBySeven(num)){
            System.out.println("YES " + num + " IS DIVISIBLE BY 7");
        }else{
            System.out.println("NO " + num + " IS NOT DIVISIBLE BY 7");
        }
    }
}
```



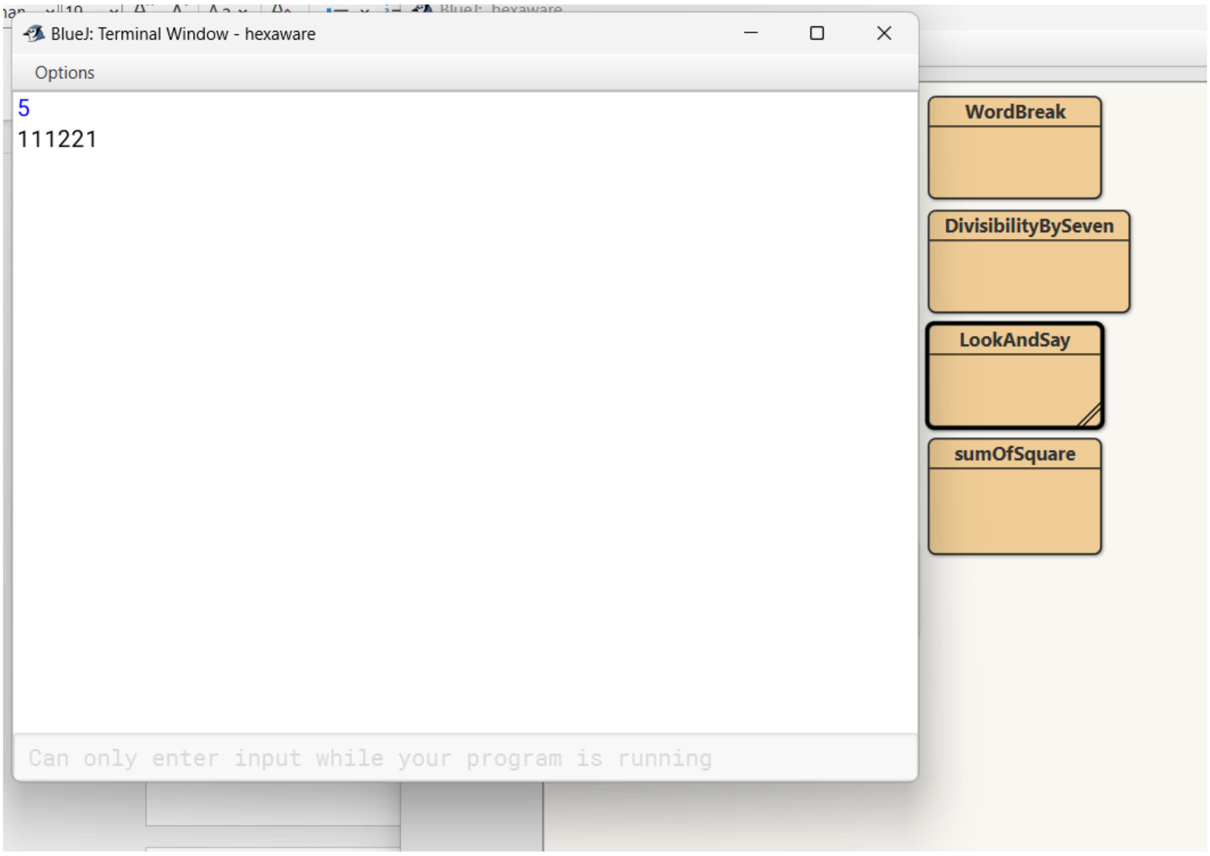
BlueJ: Terminal Window - hexaware
Options
Can only enter input while your program is running
WordBreak
DivisibilityBySeven
LookAndSay
sumOfSquare

```
25
NO 25 IS NOT DIVISIBLE BY 7
```

OUTPUT 3

PROBLEM 4

```
import java.io.*;
import java.util.*;
class LookAndSay{
    static String countAndSay(String str)
    {
        String resStr = "";
        HashMap<Character, Integer>map = new 
HashMap<>();
        for (int i = 0; i < str.length() + 1; i++) {
                if (i == str.length()  || 
map.containsKey(str.charAt(i)) == false && i > 0) {
                resStr += String.valueOf(map.get(str.charAt(i-
1))) + str.charAt(i-1);
                map.clear();
            }
            if(i == str.length()){
                map.put(null, 1);
            }else{
                if(map.containsKey(str.charAt(i))){
                    map.put(str.charAt(i), 
map.get(str.charAt(i))+1);
                }else{
                    if(i != str.length())map.put(str.charAt(i), 1);
                }
            }
        }
        return resStr;
    }
    static String result(int n){
        String res = "1";
        for (int i = 1; i < n; i++) {
            res = countAndSay(res);
        }
        return res;
    }
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        int num = sc.nextInt();
        System.out.println(result(num));
    }
}
```



BlueJ: Terminal Window - hexaware
Options
WordBreak
DivisibilityBySeven
LookAndSay
sumOfSquare

```
5
111221
```

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OUTPUT 4